

What is claimed is:

1. An injection molding system for a material vulcanizable by heat, comprising a mould with molding impressions fed from channels for feeding the material in the fluid state  
5 and means for vulcanizing the material in the impressions, the mould is separable into a first portion containing first sections of the feeding channels and a second portion containing end sections of the feeding channels and the molding impressions, the vulcanizing means comprising an  
10 element that is interposed in contact relationship between said first and second mould portions after feeding of the material to the impressions and in turn comprising means for heating the element surface coming into contact with the second mould portion to a temperature high enough to  
15 bring the material in the impressions to a temperature adapted to vulcanization of same, around the channels the first mould portion extending into the second portion so that the end sections of the channels remaining in the second portion have a reduced length, characterized in that  
20 the element comprises thermoregulating means for maintaining the element surface coming into contact with the first portion to a temperature suitable to avoid vulcanization of the material in the first channel sections.
- 25 2. A system as claimed in claim 1, characterized in that the surfaces of the element that are contact surfaces with surfaces of the first and second mould portions have shapes matching those of said surfaces of the first and second mould portions.

3. A system as claimed in claim 1, characterized in that in the material-feeding direction the first channel sections taper, the end sections become wider at least at the beginning, and in the transition region between the first and end sections of the channel there is a sudden widening of the channel so that transition constitutes a frangible point of the material in the channel on moving of the first and second mould portions away from each other.

4. A system as claimed in claim 1, characterized in that the thermoregulating means comprises ducts for fluid circulation, placed in a region of the element that is close to the element contact surface with the first mould portion.

5. A system as claimed in claim 1, characterized in that the heating means comprises electric heating resistances disposed in a region of the element that is close to the element contact surface with the second mould portion.

6. A system as claimed in claim 4, wherein the heating means comprises electric heating resistances disposed in a region of the element that is close to the element contact surface with the second mould portion, characterized in that the region with the ducts for fluid circulation and the region with the electric resistances are separated from each other by an intermediate region of thermally insulating material.

7. A system as claimed in claim 4, characterized in that the fluid is thermoregulated to be maintained to a temperature close to but lower than the vulcanization temperature.

8. A system as claimed in claim 1, characterized in that the element comprises projections that are conveniently sized and positioned for fitting into said end sections on moving of the element close to said second mould portion, and for extracting the vulcanized material from said end sections on moving of said element again away from the second mould portion.

9. A system as claimed in claim 8, characterized in that the projections define an undercut for clinging into the material at the channel end sections.

10. A system as claimed in claim 8, characterized in that a chamber is provided around each projection, the volume of said chamber being sufficient to receive the material urged out of the end section on penetration of the projection thereinto.

11. A system as claimed in claim 8, characterized in that the projection is greatly shorter than the channel end section.

12. A system as claimed in claim 8, characterized in that the junction line between first and second channel sections is substantially coincident with an opening line of the molding cavities in the second portion.

13. A system as claimed in claim 1, characterized in that the first mould portion extends into the second portion by means of injectors mounted on the body of the first portion and containing the first channel section.

14. A system as claimed in claim 2, characterized in that the injectors have a point end of conical shape to be received almost snugly into a matching conical seat in the

second mould portion.

15. A system as claimed in claim 13, characterized in that the injectors are mounted in an elastically yielding manner in an axial direction.